CIVL3201
Transport Engineering
Session 1, In person/Online-scheduled-weekday, North Ryde 2022
School of Engineering

Contents

General Information  2
Learning Outcomes  2
General Assessment Information  3
Assessment Tasks  3
Delivery and Resources  5
Unit Schedule  5
Policies and Procedures  5
Engineers Australia Competency Mapping  7

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https://unitguides.mq.edu.au/unit_offerings/150722/unit_guide/print
General Information

Unit convenor and teaching staff
Convenor
Golnaz Alipour Esgandani
golnaz.alipour@mq.edu.au
Contact via vi email
Level 1, 50 Waterloo Road
By arrangement

Credit points
10

Prerequisites
130cp at 1000 level or above and CIVL1001

Corequisites

Co-badged status

Unit description
This unit provides students with an introduction to transportation and road engineering. It aims to develop skills that are fundamental for civil engineers undertaking typical traffic and transport investigations, and design of transport systems and roads. The first part of the unit focuses on transport planning, economics of transport, and traffic engineering. The second part of the unit is about road engineering including road design standards, geometric design of roads, and maintenance strategies. This unit prepares students to develop fundamental knowledge required for Geotechnical and Transportation Project unit.

Important Academic Dates
Information about important academic dates including deadlines for withdrawing from units are available at https://www.mq.edu.au/study/calendar-of-dates

Learning Outcomes
On successful completion of this unit, you will be able to:

ULO1: Demonstrate a fundamental knowledge of transportation systems and traffic flow theories
ULO2: Design a transportation system including intersections and signals using traffic flow concepts
ULO3: Demonstrate a good understanding of road and pavement design, road safety
and maintenance strategies, and environmental issues associated with roads

ULO4: Apply road design standards in the design and construction of roads and identify factors affecting system operations

**General Assessment Information**

**Grading and passing requirement for unit**

There are weekly problem sets, the mid session test and a final exam that need to be completed for assessment. In order to pass this unit a student must obtain a mark of 50 or more for the unit (i.e. obtain a passing grade P/ CR/ D/ HD).

For further details about grading, please refer below in the policies and procedures section.

**Late submissions and Resubmissions**

Online quizzes, in-class activities, or scheduled tests and exam must be undertaken at the time indicated in the unit guide. Should these activities be missed due to illness or misadventure, students may apply for Special Consideration.

All other assessments must be submitted by 5:00 pm (Sydney Time) on their due date.

Should these assessments be missed due to illness or misadventure, students should apply for Special Consideration.

Assessments not submitted by the due date will receive a mark of zero.

Resubmission of work is not permitted

**Assessment Tasks**

<table>
<thead>
<tr>
<th>Name</th>
<th>Weighting</th>
<th>Hurdle</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid session test</td>
<td>30%</td>
<td>No</td>
<td>Week 7</td>
</tr>
<tr>
<td>Invigilated Final Examination</td>
<td>50%</td>
<td>No</td>
<td>TBA</td>
</tr>
<tr>
<td>Problem sets</td>
<td>20%</td>
<td>No</td>
<td>Each Week</td>
</tr>
</tbody>
</table>

**Mid session test**

Assessment Type 1: Quiz/Test
Indicative Time on Task 2: 12 hours
Due: **Week 7**
Weighting: **30%**
On successful completion you will be able to:

- Demonstrate a fundamental knowledge of transportation systems and traffic flow theories
- Design a transportation system including intersections and signals using traffic flow concepts

Invigilated Final Examination

Assessment Type: Examination
Indicative Time on Task: 20 hours
Due: TBA
Weighting: 50%

Problem sets

Assessment Type: Problem set
Indicative Time on Task: 26 hours
Due: Each Week
Weighting: 20%
theories
• Design a transportation system including intersections and signals using traffic flow concepts
• Demonstrate a good understanding of road and pavement design, road safety and maintenance strategies, and environmental issues associated with roads
• Apply road design standards in the design and construction of roads and identify factors affecting system operations

1 If you need help with your assignment, please contact:
   • the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
   • the Writing Centre for academic skills support.

2 Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

Delivery and Resources
Lecture and practical sessions start in Week 1.

All in-person students need to be on campus in week 1. If you are an in-person student and are unable to be on campus for the start of week 1 please contact the unit convenor urgently.

As practicals are face to face, students who are not able to be on campus in week 1 should contact unit convenor urgently.

Unit Schedule
Refer to iLearn and lecture notes for the unit schedule.

Policies and Procedures
Macquarie University policies and procedures are accessible from Policy Central (https://policies.mq.edu.au). Students should be aware of the following policies in particular with regard to Learning and Teaching:

• Academic Appeals Policy
• Academic Integrity Policy
• Academic Progression Policy
• Assessment Policy
• Fitness to Practice Procedure
• Assessment Procedure
• Complaints Resolution Procedure for Students and Members of the Public
**Student Support**

- **Special Consideration Policy**

Students seeking more policy resources can visit [Student Policies](https://students.mq.edu.au/support/study/policies). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

To find other policies relating to Teaching and Learning, visit [Policy Central](https://policies.mq.edu.au) and use the search tool.

**Student Code of Conduct**

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: [https://students.mq.edu.au/admin/other-resources/student-conduct](https://students.mq.edu.au/admin/other-resources/student-conduct)

**Results**

Results published on platform other than eStudent, (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in eStudent. For more information visit [ask.mq.edu.au](http://ask.mq.edu.au) or if you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto:globalmba.support@mq.edu.au)

**Academic Integrity**

At Macquarie, we believe academic integrity – honesty, respect, trust, responsibility, fairness and courage – is at the core of learning, teaching and research. We recognise that meeting the expectations required to complete your assessments can be challenging. So, we offer you a range of resources and services to help you reach your potential, including free online writing and maths support, academic skills development and wellbeing consultations.

**Student Support**

Macquarie University provides a range of support services for students. For details, visit [http://students.mq.edu.au/support/](http://students.mq.edu.au/support/)

**The Writing Centre**

The Writing Centre provides resources to develop your English language proficiency, academic writing, and communication skills.

- **Workshops**
- **Chat with a WriteWISE peer writing leader**
- **Access StudyWISE**
- **Upload an assignment to Studiosity**
- **Complete the Academic Integrity Module**

The Library provides online and face to face support to help you find and use relevant information resources.

- **Subject and Research Guides**
Student Services and Support

Macquarie University offers a range of **Student Support Services** including:

- **IT Support**
- **Accessibility and disability support** with study
- **Mental health support**
- **Safety support** to respond to bullying, harassment, sexual harassment and sexual assault
- **Social support** including information about finances, tenancy and legal issues

Student Enquiries

Got a question? Ask us via **AskMQ**, or contact **Service Connect**.

IT Help

For help with University computer systems and technology, visit [http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/](http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/).

When using the University's IT, you must adhere to the **Acceptable Use of IT Resources Policy**. The policy applies to all who connect to the MQ network including students.

Engineers Australia Competency Mapping

<table>
<thead>
<tr>
<th>EA Competency Standard</th>
<th>Unit Learning Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Knowledge and Skill Base</strong></td>
<td></td>
</tr>
<tr>
<td>1.1 Comprehensive, theory-based understanding of the underpinning fundamentals applicable to the engineering discipline.</td>
<td></td>
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<tr>
<td>1.2 Conceptual understanding of underpinning maths, analysis, statistics, computing.</td>
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<tr>
<td>1.3 In-depth understanding of specialist bodies of knowledge</td>
<td>ULO1, ULO3</td>
</tr>
<tr>
<td>1.4 Discernment of knowledge development and research directions</td>
<td></td>
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<tr>
<td>1.5 Knowledge of engineering design practice</td>
<td>ULO1, ULO3</td>
</tr>
<tr>
<td>1.6 Understanding of scope, principles, norms, accountabilities of sustainable engineering practice.</td>
<td></td>
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<tr>
<td><strong>Engineering Application Ability</strong></td>
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<tr>
<td>2.1 Application of established engineering methods to complex problem solving</td>
<td>ULO2</td>
</tr>
<tr>
<td>2.2 Fluent application of engineering techniques, tools and resources.</td>
<td>ULO2, ULO4</td>
</tr>
</tbody>
</table>
### Professional and Personal Attributes

<table>
<thead>
<tr>
<th>2.3 Application of systematic engineering synthesis and design processes.</th>
<th>ULO2, ULO4</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.4 Application of systematic approaches to the conduct and management of engineering projects.</td>
<td>ULO4</td>
</tr>
</tbody>
</table>

#### Professional and Personal Attributes

<table>
<thead>
<tr>
<th>3.1 Ethical conduct and professional accountability.</th>
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<tbody>
<tr>
<td>3.2 Effective oral and written communication in professional and lay domains.</td>
</tr>
<tr>
<td>3.3 Creative, innovative and pro-active demeanour.</td>
</tr>
<tr>
<td>3.4 Professional use and management of information.</td>
</tr>
<tr>
<td>3.5 Orderly management of self, and professional conduct.</td>
</tr>
<tr>
<td>3.6 Effective team membership and team leadership</td>
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</tbody>
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